

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
841 Chestnut Building
Philadelphia, Pennsylvania 19107

100248

SUBJECT: Review of the draft Feasibility Study
Report for the Standard Chlorine of
Delaware, INC. site

DATE: March 15,
1993

FROM: Bernice Pasquini, Geologist
Technical Support Section (3HW13)

TO: Kate Lose, RPM
DE/MD Remedial Section (3HW42)

I have reviewed the subject document and have found among other things that the remediation of subsurface soils was totally disregarded and without justifying it anywhere in the reports narrative, an incomplete evaluation of potential remedial options, and portions of the narrative indicated that there is a minimal impact to Red Lion Creek from the site ground water. The following are specific recommendations and comments concerning the subject report:

Impact to surface water quality due to discharge from the contaminated ground water in the Columbia aquifer

1) On page ES-4 of the Executive Summary and page 1-24 of the Introduction, the following unsupported statement is made: "RI data indicates that there is a minimal impact to surface water quality of the unnamed tributary and Red Lion Creek resulting from the discharge of contaminated groundwater to these surface water bodies." This statement cannot be corroborated from the data collected from the Remedial Investigation and is misleading. Please have Weston delete these statements and any other similar statements in this report from the narrative.

Subsurface Soils

1) Since RI data shows that subsurface soils are contaminated in areas upto 32 feet below ground surface (see page 1-16 of FS), evaluation and consideration of subsurface soils should be performed when evaluating the soil remedial alternatives. Soil clean-up levels for subsurface soils should be estimated to be protective of ground water quality (i.e. eliminate subsurface soil sources). This was not addressed at all in the Feasibility Study, eventhough the need for estimating soil clean-up levels protective of ground water quality was brought to the PRPs and Westons attention at pre-FS report meetings and in correspondence. Please have Weston address the preceding.

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2) Page 1-23: A brief mention of subsurface soils is made in the first full paragraph on this page. It appears that the narrative stresses that subsurface soils are not located such that these soils would present a dermal contact risk. However, no discussion is provided in this report as to the important part that these contaminated subsurface soils would play as a continual source to ground water contamination. Please have Weston include and evaluate in the narrative.

Section 1.5.2.3, Red Lion Creek Sediments

1) In summarizing the nature and extent of the contamination found at the Red Lion Creek sediments, it is more relevant to the purpose of this narrative to describe the distribution of the contamination (eg the furthest downstream extent and detected concentration) in Red Lion Creek. Description of the location of highest contamination of sediment in Red Lion Creek should be discussed as well.

Table 3-1 and Table 3-3

1) For the Groundwater collection/containment two other potential alternatives which were not screened but should have are air sparging and bio sparging. Please have Weston include in the narrative and in this table.

2) The greatest recorded depth to the Merchantville/Potomac Clay at the site is over 70 feet. Slurry walls can be constructed to this depth and at even greater depths. Consequently, depth is not a limiting factor as far as engineering feasibility. Adjust the Tables and the narrative associated with this Remedial Technology (eg page 3-15, **practical depth limitation of approximately 25 feet?**).

3) For Interceptor Trenches discussed in this Table and on page 3-15: A more detailed description of the depth limitation of 25 feet should be provided in the narrative. The importance of identifying whether the limitation in depth for this technology is associated with current engineering technology and equipment or cost. It is not enough to merely indicate in screening a technology that it is **generally limited**. A specific detailed discussion must be provided as to engineering difficulties that would make it difficult if not impossible to implement. Have Weston amend the Tables accordingly, and if necessary.

4) An interceptor trench designed to collect ground water north of the trench may be more beneficial as well point data indicates that ground water quality to the north of the proposed location is contaminated with upto 53 mg/l (ppm) of total chlorinated benzenes. This design will enable the trench to collect contaminated ground water for treatment which under the current proposed design would not be collected, but left to discharge to Creek. Please have Weston consider this design option for the interceptor trench.

Product Recovery

1) Neither in the RI nor the FS is there information which indicates that actual Dense Non Aqueous Phase Liquid (DNAPL) was measured in any on-site monitoring or extraction well, and yet in Delaware River Basin Commission quarterly monitoring reports, several wells are reported with DNAPL. It is imperative that in order to justify Product Recovery wells that information exist in either the RI or the FS as to wells which have historically contained DNAPL, thickness, and chemical and physical characteristics, if known. As the RI is basically completed it would be prudent to contain information in the FS regarding DNAPL. The location, thickness, chemical analysis should be included in a Table and the narrative should discuss their occurrence in the nature and extent of contamination section narrative of the introduction portion of the report. The narrative should in turn cite the Table.

Soil/Sediment Treatment Technologies

1) The information provided in Section 3.3.2.13.3, Soil Flushing, would tend to indicate that this technology could be retained. As identified field treatability testing should have been performed, and yet was not. Therefore this option should be retained as the site hydrogeologic conditions are ideal for this type of technology.

Figures 5-4 and 5-5

1) Care should be taken in choosing the location of the interceptor trench in that it should be located out of the flood plain and at a higher elevation than the expected ground water seasonal high. Please revise drawing and clarify narrative per preceding.

Figure 5-7

1) With no information as to the current known location of DNAPL, it is difficult to verify whether the proposed number and location of Product Recovery wells is adequate. Please have Weston provide language on the figure to indicate uncertainty as to number and location of Product Recovery wells. Also have Weston depict the existing wells which have historically contained DNAPL directly on this figure.

If you have any questions concerning the preceding comments, feel free to contact me at (215) 597-2365.

cc: Eric Johnson
Dawn Ioven
Robert Davis

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